1: Bowen C-4 (1945-1947) 1951 MK2 Maritime Arabs MK2

estimate of the number of boats operating in 1946 would be as follows:

Bahrein	150
Kuwait	100
Darin, Qatif, Jubail	30
Trucial coast, Qatar, and Persian ports	250
	530

Manning these 500-odd craft were probably not over 10,000 men.

In Oman a strange balance of labor has been set up by the coincidence of the pearling season with the date harvest. Starting about June there is a migration of men northward from the Batinah Coast to the Trucial Coast; these men work the pearl fisheries. Some go north in caravans, others sail up in their *bedens* and other dhows. Opposed to the flood of men who make this temporary migration is a counter-migration of women who move southward from the Trucial Coast to the Batinah Coast; these women are hastening to the date groves for the date harvest. Often the women journey southward on the caravans which are returning from carrying the men to the Trucial Coast. Several months later, in September, the journeyers start the return home.

Bertram Thomas states that a considerable percentage of the army of men annually migrating northward to the Trucial Coast is composed of slaves.[17] These Batinah contingents are usually accompanied by a tribal agent who enlists them with some pearling *nakhoda*. The slaves are the best divers, as they have been at it from youth; freemen usually work the ropes in Oman. Slave divers are noted for their lack of fear of diving into deep water or into muddy water containing weeds. So great is the need for labor in the Trucial pearleries that boats sail into the Gulf from as far away as Socotra to join the pearl fishing.[18]

Pearl fishing is a seasonal occupation, as the divers must wait for warm summer water before starting to dive. Probably few people realize there is a winter in the Persian Gulf, and that the water gets so cold that swimming for periods of over five minutes is extremely chilling. In Hasa Province it is not uncommon

[17] Bertram Thomas, *Alarms and Excursions in Arabia* (London, 1931), p. 258.

[18] Ibid., p. 143

1: Bowen C-4 (1945-1947) 1951 MK2 Maritime Arabs MK2

228 464 132 for the minimum winter air temperature to be in the middle forties; during this period the sea water temperature in shallow water will be in the low sixties.

228 147 464 132 Pearl diving requires that the diver's body be almost continually in the water. From experience the Arabs have found that the surface water temperature has to be about 85° F. before continued deep-water diving is feasible; thus the main pearling season (*al-ghaws al-kabir*, or "great diving") averages four months—from June into the first week of October. During this time the maximum surface water temperature exceeds 90° F. (in August) off Hasa. O'Shea states that on the Trucial Coast *al-ghaws al-kabir* often lasts until late October, the water apparently remaining warmer longer there than further north.[19] In addition to *al-ghaws al-kabir*, there are two other seasons: the "cold diving" season (*al-ghaws al-barid*) running from April to May, and the *mujannah*, running from October to March. The smaller boats run out in the shallower (warmer) waters for *al-ghaws al-barid* and act as a barometer for the season, while the *mujannah* is worked by waders who work along the shore when the tide is out, many equipped with glass-bottom "look boxes."

527 228 For *al-ghaws al-kabir* the various fleets, whether from Kuwait, Bahrein, or the Trucial Coast, leave port en masse with flags flying, to the beating of drums and Arab chants. The few boats from the smaller ports slip out without fanfare. It is a stirring sight to see these fleets of dhows maneuver with their sweeps and then set forth under huge spreads of lateen sails, with their freshly oiled, burnt-brown hulls glistening across the aquamarine water, like some ancient Phoenician or Roman fleet.

228 502 An admiral represents the pearl fishing fleet of each port. It is the admiral's boat which leaves the port first, and the admiral's duty to determine when the water becomes too cold for continuous diving. It is considered improper (by the owners) for the *nakhoda* of any large vessel to leave the pearl banks before the admiral leaves.[20]

[19] R. O'Shea, *op. cit.*, p. 137.

[20] The admiral of al-Khobar, Saudi Arabia, now works for the Arabian American Oil Company, for al-Khobar no longer sends vessels out to the pearl grounds.

3: Bowen C-4 (1945-1947) 1951 MK2 Maritime Arabs MK2

wages, they are given cash advances and food during the winter and during slack periods. They never seem able to pay off their debts to the dhow owners.

PEARLING

The most colorful marine industry of the Persian Gulf is pearling.[3] Pearling is definitely a seasonal occupation, confined to the months when

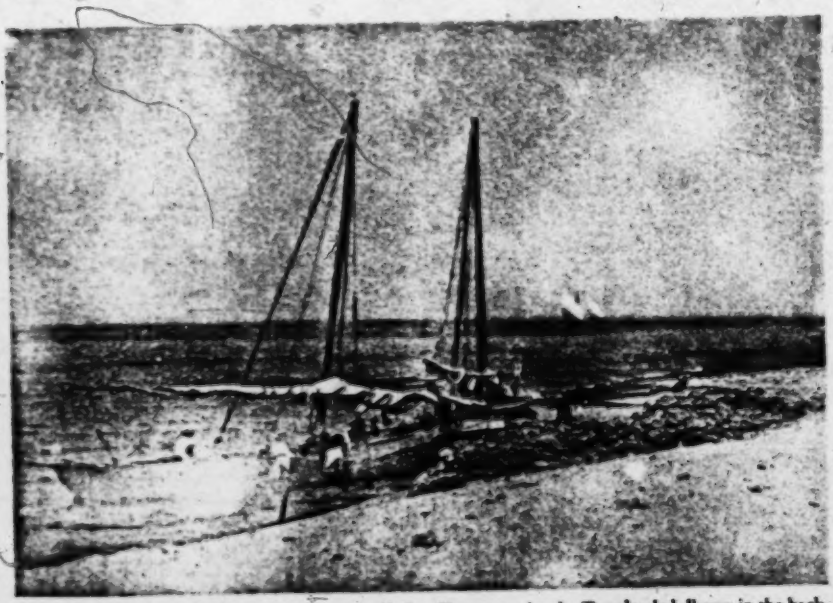

FIG. 15—Unloading hasa from jalbuts on the Ras Tanura peninsula. Two loaded dhows in the background are bringing in more.

the water is warm. On the Persian Gulf coast of Arabia the minimum winter air temperature is in the middle forties, the shallow-sea temperature in the low sixties. From long experience the Arabs have found that they can begin deepwater diving in June and continue until the first week in October. At the start and finish of the season the surface-water temperature is about 85°, but the deep-water temperature is considerably less; the maximum surface-water temperature may exceed 100° in August. Before this main season the *ghaus al-kabir* (great diving), there is a season of about two months known as the *ghaus al-barid* (cold diving), when smaller boats work the shallower waters near their home ports; during the winter many men go out as "waders" at low tide to pick up what they can just below tide level.

[3] See also R. LeB. Bowen, Jr.: The Pearl Fisheries of the Persian Gulf, *Middle East Journ.*, Vol. 5, 1951, pp. 161–180.

4: Bowen C-5 (1950) 1951 MK2 Maritime Arabs MK2

The Dhow Sailor[1]

BY RICHARD LeBARON BOWEN, JR.

I

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SINCE time immemorial, cargo has been transported in sailing ships up and down the South Arabian and the East African coasts. As the medieval Sinbads and the ancients before them had done for countless centuries, so are the Arabs, Indians, and Persians today transporting cargo in sailing ships up and down these same shores. Today these sailors operate the last great fleet of deepwater sailing ships in the world, and because of the special circumstances, this fleet will probably sail on for many more centuries oblivious to the changing pace of life around it. Life for these modern sailors has changed little in the thousand years that have passed since the adventures of Sinbad the Sailor were recorded in *The Thousand and One Nights*.

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The Arabs, Indians, and Persians are still able to sail their fleets of

[1] Credit for this article belongs in large part to Mr. Frederick Hunt, who, after reading the author's 'Arab Dhows of Eastern Arabia' in THE AMERICAN NEPTUNE, wrote to the Editor and asked if a follow-up might be possible, 'telling something of actual life aboard a dhow, how the crew lives, watches they stand, living conditions, what they eat, their wages, etc.' Mr. Hunt's outline has been followed almost to the letter, with some additional material added to round out the study.

Shortly after the first draft of the article was finished, the writer was very fortunate to become a member of the American Foundation for the Study of Man Arabian Expedition, which conducted archaeological investigations in South Arabia during the winter of 1950. Almost a month spent at Aden and on the south coast of Arabia, enabled the writer to collect much valuable additional first-hand data on the life of the dhow sailor. The writer is indebted to Mr. Wendell Phillips, leader of the expedition, for his assistance in making this particular phase of the study possible. The writer is deeply grateful to Prof. W. F. Albright, vice-president of the American Foundation for the Study of Man, for his guidance and assistance in numerous details in the work. The writer is also indebted to Dr. Philip K. Hitti for valuable advice on certain points.

In doing any work on the subject of dhows, one must consult what Alan Villiers has written on the subject. By sailing with the Arabs on their dhows for almost a full year Mr. Villiers has obtained an intimate picture of the dhow that the casual observer will completely miss, or the serious worker may not be able to get, as the Arabs are rather suspicious of Europeans who investigate their activities too closely. The writer of this present article has drawn on Villiers' material to round out certain aspects of this article and to supply various facts and figures for which Villiers alone is the source. Most of such material has been taken from his entertaining book, *Sons of Sinbad* (New York: Charles Scribner's Sons, 1940), which in further reference will be abbreviated to A. Villiers, *SS*.

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A description of the various types of dhows mentioned by their Arabic names in this article will be found in R. LeB. Bowen, Jr., 'Arab Dhows of Eastern Arabia,' AMERICAN NEPTUNE, IX (1949), 87-132, and R. LeB. Bowen, Jr., *Arab Dhows of Eastern Arabia* (Rehoboth: Privately printed, 1949).

lateen-rigged dhows, which operate in the main without the aid of engines, partly because of the amazing predictability of the monsoon trade winds. For millenniums the northeast monsoon has started unfailingly about October and blown for six months, until the southwest monsoon set in about April and continued for the next six months. By a strange coincidence, these winds blow virtually parallel to the South Arabian and East African coasts. The Arabs ride their lateeners down from the north on one wind and return on the other. So convenient is the arrangement that it is probably one reason why the fair-weather lateen rig has persisted for so many centuries on the deepwater dhows in the waters of the Indian Ocean.

The *Periplus of the Erythraean Sea* (written by an anonymous Egyptian-Greek sailor in A.D. 50) tells us that the secret of the periodicity of the monsoons was discovered by Hippalus somewhat earlier and that 'from that time to the present day' ships bound for India from the Red Sea or South Arabia set a course 'straight out to sea.' It should be noted that Hippalus' find was a 'discovery' only from the Egyptian and the Greek point of view, as he discovered a secret that Indian and Arab mariners may have been carefully attempting to hide from Egyptian and Greek sailors. The original discovery of the fact that one could 'sail straight out to sea' and reach India from South Arabia, rather than by coasting, was more of a geographical than a meteorological discovery, for it was a realization of the southern projection of India (see Figure 1). Certainly no sailor in a sane mind would set a course 'straight out to sea' from South Arabia if he thought that the lands around the Erythraean Sea were oriented as shown in Figure 2.

The South Arabian kingdoms long maintained a monopoly of carrying the goods of the East via camel to the West. The Arabians collected the products of India and East Africa at the southern terminal of the famous incense route and sent these north, along with their own products, in huge camel caravans; the recipients in the north thought that all the products they received originated in South Arabia. Many writers have stated that the South Arabian kingdoms were doomed when the West discovered the secret of the periodicity of the monsoons. However, this writer feels that the monsoons had little to do with it; more important was the discovery that many of the coveted products thought to be indigenous to South Arabia actually originated in East Africa and India. After this fact was discovered, Greek and Roman shipping entered the Indian Ocean; in opening up trade with India and Africa they immediately started to slash the revenue of the South Arabians. It should be

4: Bowen C-5 (1950) 1951 MK2 Maritime Arabs MK2

Estimate of the size of the dhow fleet sailing down the African coast is difficult, as the Arab goes to extremes to evade official statistics. The Mombasa port statistics for 1937 showed 1,427 dhows entering the port.[10] Not all the ships sailing to Zanzibar put into Mombasa, which is only a day's sail from Zanzibar. It must also be remembered that a certain percentage of the figure represents Mombasa dhows and dhows of neighboring ports on local coastal trading ventures. In Aden some two thousand dhows trade in and out of the port every year. However, a large proportion of this figure represents Adenese dhows and neighboring dhows that do most of the cargo carrying to the small ports in the southern Red Sea and the Gulf of Aden; only a small percentage of this figure represents dhows passing through Aden on their way to Africa. Thus it would seem that the total number of craft sailing down the East African coast may well range over a thousand, depending upon economic conditions. Only a small portion of these are Indian craft, for Vaidya[11] estimates that about seventy-five Indian vessels of from one hundred to two hundred tons are engaged in the traffic to Africa, mostly from the Gulf of Cutch.

The Indian Ocean dhow trade is definitely a seasonal venture, as the ships usually depend on the monsoons to carry them on fair winds to their destinations. Vessels from the Persian Gulf and from India make one round trip a season when traveling south to East Africa. Arab and Persian ships start leaving the Persian Gulf in August and September with the first date crops and return in May and June, averaging eight to ten months for the round trip. Indian ships making the Africa run leave in November and return by June, averaging about six months for the round trip. The Indians have less time in which to make the trip because of the violent storms on the west coast of India during the southwest monsoon, which makes sailing unwise during the months of June, July, August, and September.

When making the trip between the Persian Gulf and India it is customary for the Arabs, Persians, and Indians to make two round trips a season. The vessels leave at the same time as the ships going to Africa; that is, in August and September for Persian Gulf ships, and in November for Indian ships. Because of the monsoon storms, the Indians have to be home by June, while the Arabs only have to be out of Indian waters by June. Actually, Arab ships start arriving in November and are ready to leave India after their second trip in March or April. These trips be-

[10] A. Villiers, 'The Arab Dhow Trade,' *Middle East Journal*, II (1948), 413.

[11] K. B. Vaidya, *Sailing Vessel Traffic on the West Coast of India* (Bombay: Popular Book Depot, 1945), p. 57. I am indebted to Mr. Alexander Crosby Brown for calling this most valuable work to my attention.

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tween the Gulf and India usually average about three months a round trip.

The effect of the southwest monsoon in India is felt most in the southern part of India. In April the northeast winds change gradually to the southwest; the monsoon breaks in force on Ceylon in the third week in May and moves up the coast, hitting Bombay about the first week in June, and finally reaching Karachi about the last of June.

Along the Malabar coast it is not unusual for 150 inches of rain to fall in four months from May into September. However, farther north on the Sind coast there is only about twenty-five inches of rain during the whole southwest monsoon. Thus on the Malabar coast there is no coastal trade carried on from May through September. During a storm in May 1943 over two hundred vessels were sunk on the Malabar coast and more wrecked.[12] However, on the northern Sind coast of India native shipping is closed down only during June and July, so that there is a ten-month shipping season possible there, as compared to seven months on the Malabar coast. The west coast of India gets about a month more of the southwest monsoon than the western part of the Indian Ocean, where the northeast winds start about October. The northeast monsoon usually brings fair weather with little rain to the west coast of India. Away from the coast of India the southwest monsoon is a fair weather trade wind blowing up from Africa.

There are numerous Indian firms that will insure cargoes carried on Indian coastal sailing craft; the insurance rates give a vivid picture of the relative danger at sea during the various periods of the two monsoons:[13]

Season	*Month*	*Rate*
Change	November	1½%
Northeast Monsoon	December-January	1%
	February	1¼%
	March	1½-1¾%
Change	April	2½-6%
Southwest Monsoon	May	6-20%
	June-July-August	No insurance
	September	2½%
	October	1½%

This shows very graphically why Arab ships stay out of southern Indian

[12] Ibid., p. 16.

[13] Ibid., p. 156. These rates are average rates for the southern part of the coast, and of course would change for the northern part of the coast where the southwest monsoon does not set in until June.

4: Bowen C-5 (1950) 1951 MK2 Maritime Arabs MK2

waters from May to September, and why most local Indian craft are drawn up on the beaches.

II

Dates are probably as important a factor as the monsoons in maintaining the large lateen fleet in the waters of the Indian Ocean. By a lucky coincidence, the great date crop of Iraq begins to ripen just before the northeast monsoon sets in about October. The great maritime expansion of the port of Kuwait has probably been due in no small part to its proximity to Basra, the port through which most of Iraq's dates go.

Dhows come to Basra for dates from Kuwait, Bahrein, Persia, Oman, India, and even as far away as the Hadhramaut. Starting in the latter part of August and continuing into September, Kuwait deepwater ships are floated from the beaches, where they have rested for several months during the summer, making ready for the run to Basra to pick up dates. The farther the home port is from Basra, the earlier the ships must depart, so that craft from the Hadhramaut must allow a month or more to get to Basra, riding up to the Gulf of Oman on the summer monsoon and then working their way up the Persian Gulf, where the monsoon is not felt.

Almost without exception the date cargo is carried out of Basra on consignment for some merchant; sometimes the destination is known on leaving Basra, but often the consignment is sent to Aden or Mukalla (see Plate 23—bottom) in South Arabia for final shipping instructions from the Arab or Indian export firm shipping the dates. Dates are usually not carried into the Red Sea much past Hodeida in the Yemen in Kuwait ships, although Villiers[14] tells of a Kuwait *bhum* transporting a load of dates as far as Qizan in Saudi Arabia.

In such a manner dates have been leaving Iraq for decades bound for the southern shores—that is until the winter of 1949. In that winter, for the first time in many years, the great date-bearing Kuwait *bhum* fleet failed to appear in its usual strength in the waters along the southern shores of Arabia; only a portion of the usual quota appeared in Aden by the first of 1950. The dates that would ordinarily have come into Aden in Kuwait dhows came down unceremoniously under steam. What caused this abrupt change in the well-established status quo of the dhow trade? The same thing that has wrought so many other radical changes in the economy of the Middle East lately—oil!

Kuwait is actually a city-state with few industries except pearling, fishing, and shipbuilding; there are no farms, no date plantations, and only

[14] A. Villiers, *SS*, p. 366.